

Department of Energy

Richland Field Office P.O. Box 550 Richland, Washington 99352

9305744

94-RPS-069

DEC 1 6 1993

Mr. David B. Jansen, P.E. State of Washington Department of Ecology P.O. Box 47600 Olympia, Washington 98504-7600

Dear Mr. Jansen:

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION FORM 3, REVISION 0, FOR THE 216-B-3 EXPANSION PONDS (WA7890008967) (TSD: D-2-5)

Enclosed is the Hanford Facility Dangerous Waste Part A Permit Application (Part A) Form 3, Revision 4, for the 216-B-3 Expansion Ponds (Expansion Ponds). The Expansion Ponds are located in the 200 East Area of the Hanford Facility and were used for the treatment and disposal of process and cooling liquid effluent from various 200 East Area units.

This treatment and disposal group was part of the larger 216-B-3 Pond System, which included both the Expansion Ponds and the 216-B-3 Main Pond (Main Pond). In a letter dated September 3, 1993, the State of Washington Department of Ecology concurred with the U.S. Department of Energy, Richland Operations Office (RL) and the Westinghouse Hanford Company (WHC) proposal to divide the 216-B-3 Pond System into two distinct treatment, storage, and/or disposal groups, each with a separate Part A, Form 3. The two separate Part A, Form 3s support the preparation of separate closure/postclosure plans for the Main Pond and the Expansion Ponds. Separate closure/postclosure plans are being prepared because the Expansion Ponds are currently undergoing clean closure separate from the Main Pond. The Main Pond will be closed in coordination with the Resource Conservation and Recovery Act past practice activities for its operable unit.



Should you have any questions regarding the Expansion Ponds Part A, Revision O, please contact Mr. C. E. Clark of RL on (509) 376-9333 or Mr. R. C. Bowman of WHC on (509) 376-4876.

Sincerely,

 $/\!\!\!/$ James D. Bauer, Program Manager Office of Environmental Assurance,

Permits, and Policy

DOE Richland Operations Office

ance D Banen.

R. E. Lerch, Deputy Manager Restoration and Remediation Westinghouse Hanford Company

EAP: CEC

Enclosure:

216-B-3 Expansion Ponds Dangerous Waste Part A Permit Application Form 3, Revision 0

cc w/enclosure:

D. L. Duncan, EPA

T. M. Michelena, Ecology

D. C. Nylander, Ecology

Administrative Records, H6-08

J. J. Wallace, Ecology

cc w/o enclosure:

R. C. Bowman, WHC R. E. Lerch, WHC

S. M. Price, WHC

D. R. Butler, Ecology J. M. Atwood, Ecology

Please print or type in the unshaded areas only (fill-in areas are spaced for elite type, i.a., 12 character/inch).

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	II. PROCESSES - CODES AND CAPACITIES												ine									
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III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "TO4"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

The 216-B-3 Expansion Ponds (Expansion Ponds) consist of three interconnected ponds called the 216-B-3A (3A) Pond, the 216-B-3B (3B) Pond, and the 216-B-3C (3C) Pond. These ponds were constructed to receive the increased discharges to the 216-B-3 Pond System, which includes the 216-B-3 Main Pond (Main Pond), a separate dangerous waste treatment and disposal unit as a result of the restart of the Plutonium Uranium Extraction (PUREX) Plant in 1983 and the decommissioning of the Gable Mountain Pond in 1987. The 3A Pond was placed into service in October 1983 and remains in service today. The 3A Pond receives effluent from the Main Pond through a spillway in the dike separating the two ponds. A similar spillway allowed the receives effluent from the 3A pond. The 3A and 3B Ponds each 3B Pond, which was operational from June 1984 to May 1985, to receive effluent from the 3A Pond. The 3A and 3B Ponds each cover an area of approximately 11 acres (4.4 hectares). The 3C Pond began operation in 1985 and is still in service today. The 3C Pond was constructed by excavating 6 feet (1.8 meters) of soil over a 41-acre (16-hectare) surface area. A spillway similar to the ones used for the 3A and 3B Ponds conveys effluent from the 3A Pond to the 3C Pond.

Waste water (primarily process and cooling water) from the PUREX Plant, the B Plant Complex, the 242-A Evaporator, and other 200 East Area units is received by the expansion ponds through the Main Pond. The Expansion Ponds received corrosive waste as a result of the regeneration of the PUREX Plant demineralizer columns (D84). Treatment of the waste occurred by the successive discharge of acidic and caustic waste, which served to neutralize the corrosivity of the waste before and upon reaching the Expansion Ponds. Residual corrosivity was neutralized by the calcareous nature of the Expansion Ponds soil (T02).

The process design capacities given for the waste process codes TO2 [27,960,000 gallons (105,840,000 liters) per day] and D84 [27,960,000 gallons (105,840,000 liters)] represent the Expansion Ponds proportional share (based on percolation capacity) of the process design capacity of the entire B Pond System. At the peak of operations, approximately 22,000,000 gallons (83,280,000 liters) per day of liquid was discharged to the entire 216-B-3 Pond System. Presently, approximately 1,500 gallons (5,678 liters) to 6,000 gallons (22,712 liters) per minute of nondangerous liquid effluent are being sent to the 216-B-3 Pond System.

Construction was begun on a new pipeline in 1990 that will allow waste water to bypass the 216-8-3 Main Pond and discharge directly to the Expansion Ponds.

IV. DESCRIPTION OF DANGEROUS WASTES

- DANGEROUS WASTE NUMBER Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contaminants of those dangerous wastes.
- B. ESTIMATED ANNUAL QUANTITY For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis.

 For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE CODE
POUNDS		KILOGRAMS

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

- Select one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
- Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

\Box]			D. PROCESSES													
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Continued from page 2. NOTE: Photocopy this page before completing if you have more than 26 wastes to list. 1.D. NUMBER (entered from page 1) W A 7 8 9 0 0 0 8 9 6 7 IV. DESCRIPTION OF DANGEROUS WASTES (continued) D. PROCESSES C. UNIT OF MEA-SURE (enter N DANGEROUS O WASTE NO. B. ESTIMATED ANNUAL QUANTITY OF WASTE 2. PROCESS DESCRIPTION (if a code is not entered in D(1)) 1. PROCESS CODES (enter) codel (enter code) †o2 Neutralization/Percolation Ρ D84 |D|0|0|2 117,200,000 Ш included with above W Т 2,573,000 0 Neutralization/Percolation Ρ T02 D84 U 1 3 3 1,478,000 Neutralization/Percolation P T02 D84 WIT 0 1 484,000 included with above 0 0 0 6 149,000 8 10 11 12 13 14 16 16 17 18 19 20 21 22 23 25 26

ECL30 - 271 -ECY 030-31 Form 3 PAGE 3

CONTINUE ON REVERSE

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The 216-B-3 Expansion Ponds (Expansion Ponds) received dangerous waste from two main sources: (1) corrosive and toxic dangerous waste resulting from the regeneration of demineralizer columns at the PUREX Plant, and (2) spills of dangerous or mixed waste at the PUREX Plant. Backwash from the regeneration of the demineralizer columns was frequently corrosive (D002) and sometimes contained toxic concentrations of chemicals used in the regeneration process, including nitric acid, sulfuric acid, sodium hydroxide, and potassium hydroxide (WT02). Spills at the PUREX Plant included hydrazine (U133), cadmium nitrate (WT01/D006), and ammonium fluoride/ammonium nitrate (WT01). Since 1984, administrative and engineering barriers have been put in place at the PUREX Plant to prevent dangerous waste from being discharged into the Expansion Ponds.

The quantity of waste listed for D002/WT02 is an estimated annual quantity based on the Expansion Ponds proportional share (based on percolation capacity) of the amount of corrosive and toxic dangerous waste received by the entire 216-B-3 Pond System (which includes the 216-B-3 Main Pond, a separate dangerous waste treatment and disposal unit). The quantities of waste listed for U133 and WT01/D006 represent the Expansion Ponds' proportional share (based on percolation capacity) of the total recorded amount of hydrazine, cadmium, and ammonium fluoride/ammonium nitrate received by the entire B Pond System from the time the PUREX Plant resumed operations in 1983 until the last known chemical discharge occurred in 1987.

The quantities of waste listed for U133 and WTO1/D006 include the water in which the chemicals were discharged. Water makes up most of the weight of these discharges.

V. FACILITY DRAWING									
All existing facilities must include in the space provided on	page 5 a scale drawing of	the facility (see instruct	ions for more detail	<i>l.</i>					
VI. PHOTOGRAPHS									
All existing facilities must include photographs (serial or grasites of future storage, treatment or disposal areas (see ins	tructions for more detail).								and
VII. FACILITY GEOGRAPHIC LOCATION Th	is information is	provided on the	attached dra	wing	s ar	nd p	<u>shoto</u>	s.	
LATITUDE (degrees, minutes, & secon			NGITUDE (degrees,						
VIII. FACILITY OWNER									
A. If the facility owner is also the facility operator as list below. B. If the facility owner is not the facility operator as list.				lie box	to the	left a	and skip	to S	ection IX
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IX. OWNER CERTIFICATION			1						
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U.S. Department of Energy	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MATAL			U//	6/	43		
Richland Operations Office	171000	709170				<u> </u>	<u> </u>		
X. OPERATOR CERTIFICATION									
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X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Owner/Operator

John D. Wagoner, Manager U.S. Department of Energy Richland Operations Office 12/16/93 Date

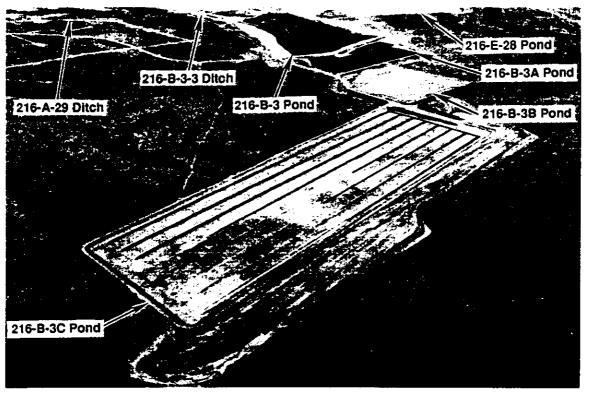
Co-operator

Thomas M. Anderson, President Westinghouse Hanford Company

Nata / //

216-B-3 Expansion Ponds v. 0, 12/16/93, Page 6 of 7

216-B-3 Expansion Ponds



46°33'38.522" 46°33'23.420" 119°30'16.016" 119°29'32.703"

93110825-1CN (PHOTO TAKEN 1993)

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author

Addressee

Correspondence No.

J. D. Bauer, RL R. E. Lerch, WHC D. B. Jansen, Ecology

Incoming 9305744 Xref 9360102D

(J. F. Williams Jr., WHC)

subject: HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION FORM 3, REVISION 0, FOR THE 216-B-3 EXPANSION PONDS (WA7890008967) (D-2-5)

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		R. C. Bowman	H6-24	Х
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		J. F. Williams Jr.	H6-24	χ
		EPIC	H6-08	x
		RCRA File/GHL	H6-23	x

JFW File/LB

H6-24

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